

OPERATING INSTRUCTIONS

FOR

HILTON

SOUND SYSTEM

MODEL

AC-300

HILTON AUDIO PRODUCTS, INC.
1033-E SHARY CIRCLE • CONCORD, CA 94518-2407
(925) 682-8390 • FAX (925) 682-8497
www.hiltonaudio.com

TABLE OF CONTENTS

AC-300 AMPLIFIER, FITTINGS AND CONTROLS.	2
SPEAKERS	5
TURNTABLE FEATURES	5
SETUP AND OPERATION	6
TURNTABLE MAINTENANCE AND ADJUSTMENT	6
SPEAKER HOOKUP.....	8
THE USE OF THE OUTPUT METER.....	9
MAKING TAPE RECORDINGS FROM YOUR HILTON.....	10
PLAYING BACK A TAPE THROUGH YOUR HILTON	11
CORRECT HOOKUP FOR A SLAVE AMPLIFIER.....	11
GETTING THE MOST FROM YOUR HILTON AND AVOIDING DAMAGE.....	12
ROUTINE MAINTENANCE AND INSPECTION	12
IN CASE OF TROUBLE	14
TO PROTECT YOUR WARRANTY	16
REPLACEMENT PARTS.....	17
MULTIPLE SPEAKER HOOKUP DIAGRAMS AND INSTRUCTIONS	18

AC-300 AMPLIFIER, FITTINGS AND CONTROLS

REAR PANEL

AT THE FAR LEFT ARE THE MAIN CHANNEL SPEAKER SOCKETS. THE AC-300 WILL OPERATE PERFECTLY WITH EITHER ONE OR TWO HILTON SPEAKERS CONNECTED TO THE MAIN CHANNEL. IN ANOTHER SECTION OF THIS MANUAL YOU WILL FIND INSTRUCTIONS AND DIAGRAMS FOR PROPER HOOKUP OF SPEAKERS.

DO NOT CONNECT MORE THAN TWO HILTON SPEAKERS, OR MORE THAN ONE SPEAKER NOT OF OUR MANUFACTURE, TO THE SAME CHANNEL UNTIL YOU HAVE CAREFULLY READ THIS SECTION.

MOVING TO THE RIGHT, YOU WILL LOCATE THE JACK MARKED "TAPE RECORD." THIS IS A DUAL-PURPOSE JACK, AND IS USED TO MAKE TAPE RECORDINGS OF THE PROGRAM GOING TO THE FLOOR THROUGH THE MAIN CHANNEL, AND IS USED ALSO TO CONNECT TO A SLAVE AMPLIFIER. IN THIS MANUAL YOU WILL FIND A SECTION DEALING WITH THE PROPER USE OF THIS JACK FOR MAKING TAPE RECORDINGS, AND ONE DEALING WITH ITS USE IN CONNECTING UP A SLAVE AMPLIFIER.

THE CIRCUIT BREAKER ON THE AC-300 IS LOCATED JUST TO THE RIGHT OF THE TAPE RECORD JACK. IF THE BREAKER SHOULD TRIP FROM A POWER SURGE IN THE AC LINE, OR FROM SOME OTHER CAUSE, WAIT A MOMENT, PRESS THE RESET BUTTON, AND NORMAL OPERATION SHOULD BE RESTORED. IF THE BREAKER SHOULD CONTINUE TO TRIP WHEN RESET, SHUT THE POWER OFF AND HAVE THE AMPLIFIER CHECKED FOR POSSIBLE INTERNAL SHORT CIRCUIT.

IMMEDIATELY BELOW THE CIRCUIT BREAKER IS THE AC RECEPTACLE. MAKE SURE THAT THE POWER SOURCE IS 110 VOLTS, 60 CYCLE CURRENT, BEFORE PLUGGING IN THE UNIT.

AT THE FAR RIGHT OF THE REAR PANEL ARE THE MONITOR CHANNEL SPEAKER SOCKETS. THE OUTPUT OF THESE SOCKETS IS CONTROLLED BY THE MONITOR VOLUME CONTROLS, AND A SPEAKER MAY BE PLUGGED INTO ONE OF THESE SOCKETS FOR USE AS A CALLER'S MONITOR, IF DESIRED. WITH THE OUTPUT SELECTOR SWITCH ON THE FRONT PANEL IN TANDEM POSITION, ALL FOUR SPEAKER SOCKETS ARE CONTROLLED WITH IDENTICAL OUTPUT BY THE MAIN CHANNEL VOLUME CONTROLS.

TOP DECK

AN OUTPUT METER WITH A SCALE OF 1 TO 10 IS LOCATED ON THE TOP OF THE AC-300, FOR EASY READING OF MUSIC-VOICE BALANCE AND TOTAL OUTPUT LEVEL. THE SELECTOR SWITCH JUST BELOW THE METER SHOULD BE LEFT IN NORMAL POSITION UNLESS YOU ARE OPERATING AT DRIVE LEVELS WHICH PEG THE NEEDLE AT MAXIMUM CONSTANTLY; THEN SWITCH TO THE LOW POSITION TO INTRODUCE RESISTANCE WHICH WILL BRING THE NEEDLE BACK ON SCALE. SEE ALSO THE SECTION OF THIS MANUAL ENTITLED "USE OF THE OUTPUT METER."

RECORD RESET MECHANISM: IMMEDIATELY TO THE RIGHT OF THE TONE ARM IS THE RECORD RESET MECHANISM. WHEN THE HILTON REMOTE RECORD RESET / VOLUME CONTROL ASSEMBLY IS PLUGGED INTO THE UNIT, THE BUTTON AT THE BASE OF THE MICROPHONE MAY BE USED TO LIFT THE TONE ARM AND RETURN IT TO THE POINT PRESET BY THE RED STOP ON THE ARM LIFT. IF THE BUTTON IS PUSHED AND RELEASED, THE ARM WILL BE LIFTED, SET BACK, AND LOWERED TO THE RECORD FASTER AND MORE SMOOTHLY THAN YOU COULD RESET IT MANUALLY. IF THE

BUTTON IS DEPRESSED AND HELD, THE ARM WILL BE LIFTED AND MOVED BACK, BUT WILL NOT BE REPLACED ON THE RECORD UNTIL YOU RELEASE IT. THIS ALLOWS YOU TO STOP YOUR MUSIC FOR A TALK-THRU SPOT AND RESTART IT IMMEDIATELY WHEN YOU WISH TO DO SO, THE SWITCH IMMEDIATELY BEHIND THE RESET MECHANISM DE-ACTIVATES IT. WHEN PLAYING 12 INCH LP RECORDS, IT IS WISE TO SWITCH THE RESET OFF, SO THAT IF THE BUTTON SHOULD ACCIDENTALLY BE TOUCHED, THE LIFT WILL NOT COME UP UNDER THE RECORD AND POSSIBLY DAMAGE IT. IF YOU HAVE A GUEST CALLER OR ROUND DANCE TEACHER WHO IS UNFAMILIAR WITH THE UNIT, YOU MAY WISH TO TURN OFF THE RESET, SO THAT HE WILL NOT RESTART HIS RECORD ACCIDENTALLY AT THE WRONG TIME,

THE **STROBE LIGHT** AT THE FRONT OF THE TURNTABLE ILLUMINATES THE STROBE DISC AND ALSO SERVES AS THE PILOT LIGHT, TO INDICATE WHEN THE AMPLIFIER IS IN OPERATION.

FRONT PANEL CONTROLS

THE **ON-OFF** SWITCH IS LOCATED AT THE LOWER LEFT. THIS SWITCH CONTROLS THE AC BOTH TO THE AMPLIFIER AND TO THE TURNTABLE MOTOR, WHICH CONTINUES TO RUN AS LONG AS THIS SWITCH IS TURNED ON.

THE **PHONOGRAPH** VOLUME CONTROL ADJUSTS THE LOUDNESS OF THE MUSIC PROGRAM FOR THE MAIN CHANNEL. WITH THE OUTPUT SELECTOR SWITCH IN TANDEM POSITION, IT CONTROLS THE MUSIC VOLUME FOR THE MONITOR CHANNEL, ALSO.

PHONO **BASS** AND **TREBLE** CONTROLS ADJUST BASS AND TREBLE COMPENSATION OF THE MUSIC PROGRAM FOR BOTH THE MAIN AND MONITOR CHANNELS. EXTREMELY WIDE LATITUDE IS PROVIDED, AND WE RECOMMEND USING ONLY THE MINIMUM ADJUSTMENT FROM NORMAL WHICH WILL GIVE THE MUSIC THE SOUND THAT YOU DESIRE.

SCRATCH FILTERING: FOR WORN OR SCRATCHY RECORDS, TURN THE PHONO TREBLE CONTROL 45 DEGREES TO THE LEFT OF THE NORMAL SETTING. THIS ACCOMPLISHES EXACTLY THE SAME RESULT AS THE SEPARATE SCRATCH FILTER SWITCH PROVIDED ON EARLIER HILTON MODELS.

RECORD RESET JACK: TO MAKE THE RECORD RESET MECHANISM OPERATIVE, IT IS NECESSARY TO PLUG THE CORRECT TERMINAL OF THE REMOTE CONTROL ASSEMBLY INTO THIS JACK.

REMOTE CONTROL JACK: BY PLUGGING IN THE HILTON REMOTE CONTROL ASSEMBLY, THE MUSIC VOLUME FOR BOTH THE MAIN AND MONITOR CHANNELS CAN BE ADJUSTED WITH THE KNOB BELOW THE MICROPHONE WITHOUT TOUCHING THE KNOBS ON THE FRONT PANEL.

RECOMMENDED OPERATION: PLUG IN THE REMOTE CONTROL AND TURN ITS VOLUME CONTROL FULL ON. SET THE PHONO AND MONITOR MUSIC VOLUME AT A LEVEL SLIGHTLY HIGHER THAN YOU DESIRE FOR BEST VOICE-MUSIC BALANCE- USE THE REMOTE CONTROL KNOB TO DECREASE THE MUSIC VOLUME TO THE LEVEL DESIRED. WITHOUT TOUCHING THE AMPLIFIER KNOBS, YOU CAN NOW DROP THE MUSIC VOLUME TO 25% OF ITS PRESET LEVEL, OR BOOST IT FOR ADDED LIFT AND EXCITEMENT WITHOUT OVERPOWERING THE DANCERS WITH TOO MUCH MUSIC, AND RESTORE PROPER VOICE-MUSIC BALANCE, AT WILL.

MICROPHONE INPUTS AND CONTROLS: TWO IDENTICAL MICROPHONE INPUTS ARE PROVIDED. VOLUME AND TREBLE-BASS CONTROLS ARE COMPLETELY INDEPENDENT OF EACH OTHER, AND OF THE MUSIC PROGRAM.

MICROPHONE TREBLE-BASS CONTROL: ONE OF THE FEATURES WHICH MAKES THE HILTON SOUND SYSTEM OUTSTANDING IS THE ABILITY OF ITS VOICE CIRCUITS TO REPRODUCE CLEANLY THE HIGH FREQUENCIES WHICH ARE ABSOLUTELY ESSENTIAL FOR CLARITY AND UNDERSTANDABILITY OF COMMANDS. IF YOU HAVE A BASS VOICE RANGE, TURN THE TONE CONTROL TO THE RIGHT FAR ENOUGH TO BE SURE THAT THERE IS NO BOOMINESS, IF YOU ARE A BARITONE LEAVE IT NEAR THE NORMAL SETTING. EVEN IF YOUR VOICE IS HIGH IN PITCH, DO NOT TURN THE TONE CONTROL MORE THAN 30 TO 40 DEGREES TO THE LEFT OF NORMAL. THE EXTREME BASS SETTING ON THE HILTON IS NOT DESIGNED FOR VOICE REPRODUCTION, BUT FOR USE IN INSTRUMENT PICKUP, OR FOR CONNECTING THE AMPLIFIER AS A SLAVE, WITH ALL COMPENSATION BEING ACCOMPLISHED BY THE CONTROL AMPLIFIER. IF YOU HAVE NOT WORKED WITH HILTON EQUIPMENT BEFORE, DO NOT MAKE THE MISTAKE OF TUNING OUT THE HIGHS IN THE VOICE TO MAKE THE HILTON SOUND PERHAPS MORE LIKE THE SOUND OF YOUR VOICE ON YOUR PREVIOUS UNIT. TO DO SO WOULD BE SIMILAR TO BUYING A NEW COLOR TELEVISION RECEIVER, AND THEN TUNING IT SO THAT THE PICTURE IS BLACK AND WHITE.

MONITOR CONTROLS: IN RESPONSE TO MANY REQUESTS, TWO VOLUME CONTROLS ARE PROVIDED, ONE FOR MUSIC AND ONE FOR VOICE. THIS FEATURE MAKES IT POSSIBLE TO FEED IN AS MUCH VOICE TO THE MONITOR PROGRAM AS DESIRED, RATHER THAN BEING RESTRICTED TO MUSIC ONLY OR TO THE SAME BALANCE AS THE MAIN CHANNEL PROGRAM, REMEMBER, YOUR MONITOR HAS THE SAME POWER AS THE MAIN CHANNEL, THE TWO SETS OF CONTROLS MAKE IT POSSIBLE, IN THE UNLIKELY EVENT OF A FAILURE IN THE MAIN CHANNEL, TO CONNECT THE FLOOR SPEAKERS TO THE MONITOR CHANNEL AND COMPLETE YOUR DANCE.

OUTPUT SELECTOR SWITCH

THE HILTON AC-300 IS AN EXTREMELY POWERFUL AND FLEXIBLE SOUND SYSTEM, DESIGNED TO PROVIDE OUTSTANDING CLARITY AND COVERAGE UNDER ANY OPERATING CONDITION, FROM A FEW SQUARES TO A COUPLE OF HUNDRED. THE THREE-POSITION OUTPUT SELECTOR SWITCH MAKES OPERATION AND CONTROL EASY AND CONVENIENT NO MATTER NOW LARGE OR SMALL THE DANCE.

NORMAL POSITION: FOR EASY CONTROL OF VOLUME AND BALANCE AT FAIRLY LOW OUTPUT LEVELS. A HIGH-POWERED AMPLIFIER IN A SMALL HALL IS SENSITIVE AND DIFFICULT TO ADJUST PRECISELY, BECAUSE A SMALL ADJUSTMENT PRODUCES A CONSIDERABLE DIFFERENCE IN VOLUME. THE NORMAL SETTING SHOULD BE USED IN ALL SITUATIONS IN WHICH FLOOR COVERAGE DOES NOT REQUIRE SETTINGS ABOVE 11 O'CLOCK ON THE PHONO AND MICROPHONE VOLUME CONTROLS,

INCREASED POSITION: PRODUCES DOUBLE THE VOLUME PROVIDED BY THE NORMAL SETTING, AT ANY GIVEN KNOB SETTING ON THE VOLUME CONTROLS. WHEN FLOOR COVERAGE REQUIRES SETTINGS OF MORE THAN 11 O'CLOCK, SWITCH TO INCREASED SETTING: WITH SUFFICIENT SPEAKERS PROPERLY LOCATED, YOU CAN COVER MORE THAN 100 SQUARES WITH THE MAIN CHANNEL ONLY, USING THIS SETTING.

TANDEM POSITION: LOCKS THE MAIN AND MONITOR CHANNELS TOGETHER, MAKING THEIR COMBINED OUTPUT POWER AVAILABLE FOR FLOOR COVERAGE. IN THIS SETTINGS BOTH MUSIC AND VOICE FOR BOTH CHANNELS ARE CONTROLLED BY THE KNOBS FOR THE MAIN CHANNELS AND ALL FOUR SPEAKER OUTLETS ON THE REAR PANEL PRODUCE IDENTICAL VOLUME. WITH THIS SETTINGS YOU CAN DRIVE AS MANY AS EIGHT HILTON SPEAKERS TO COVER THE FLOOR. BUT DO NOT CONNECT MORE THAN TWO SPEAKERS TO EITHER CHANNEL WITHOUT READING AND FOLLOWING CAREFULLY THE INSTRUCTIONS AND DIAGRAMS IN THE SECTION ON SPEAKER

HOOKUP.

SPEAKERS

THE SPEAKERS FURNISHED WITH AND RECOMMENDED FOR THE AC-300 ARE THE HILTON FOLDED HORN HIGH EFFICIENCY, HEAVY DUTY INSTRUMENT RATED SPEAKERS WITH EXTREMELY HIGH POWER HANDLING CAPACITY, MOUNTED IN FOLDED HORN ENCLOSURES. THESE SPEAKERS WILL HANDLE EXTREMELY HIGH OUTPUT WITH NO DISTORTION, OR RISK OF DAMAGE TO CONE OR VOICE COIL THESE SPEAKERS WILL HANDLE THE FULL RATED OUTPUT OF YOUR AMPLIFIER WITHOUT OVERLOADING.

CAUTION: THE USE OF SPEAKERS WITH A LOW POWER HANDLING CAPACITY CAN RESULT IN DAMAGE TO THE SPEAKERS IF THE AMPLIFIER IS OPERATED AT OR NEAR FULL RATED OUTPUT. WHEN SUCH SPEAKERS ARE IN USES THE OUTPUT SELECTOR SWITCH SHOULD BE LEFT IN THE NORMAL POSITION ONLY. SEE ALSO THE SECTION ON SPEAKER HOOKUP.

TURNTABLE FEATURES

TONE ARM: THE PICKUP CARTRIDGE IS LOCATED SO THAT THE NEEDLE IS EASY TO SEES WHEN PLACING IT ON YOUR RECORDS. THE CARTRIDGE IS A SLIP-IN, CERAMIC TYPE WITH A I-MIL DIAMOND NEEDLE, ASTATIC NO. 89-ID. THE COUNTERBALANCE IS SET AT THE FACTORY AT THE PRESSURE WHICH GIVES THE BEST INSURANCE AGAINST NEEDLE SKIPPING, CONSISTENT WITH GOOD RECORD LIFE AND NEEDLE WEAR. THIS SETTING IS FOR SQUARE DANCE WORKS WHICH OFTEN INVOLVES RICKETY TABLES AND STAGES, AND IS CONSIDERABLY HEAVIER THAN THAT WHICH WOULD BE USED FOR NON-PORTABLE HI-FL USAGE. AN ANTI-SKATE SPRING ASSEMBLY IS PROVIDED AND PRESET: THE TURNTABLE DOES NOT HAVE TO BE LEVEL TO OPERATE PERFECTLY, AND WILL PLAY AS MUCH AS 15 DEGREES FROM LEVEL. IN NORMAL USE, WITH A NEEDLE, IN GOOD CONDITION, ACCIDENTAL JARRING, WHILE IT MAY CAUSE THE MUSIC TO WOW, WILL NOT CAUSE THE NEEDLE TO SKIP. THE TONE ARM IS CUSHIONED ON SOFT RUBBER SHOCK MOUNTS, AND PRODUCES LESS MECHANICAL HUM THAN MANY HOME HI-FL CHANGERS.

MOTOR AND DRIVE ASSEMBLY: THE MOTOR IS A HYSTERESIS-SYNCHRONOUS GEARMOTOR, OF THE TYPE USED TO DRIVE LARGE CLOCKS AND TIMING DEVICES. IT IS UNAFFECTED BY VOLTAGE FLUCTUATIONS, AND WILL MAINTAIN SPEED AS LOW AS 85 VOLTS. IN A QUIET ROOM, WITH THE TURNTABLE RUNNING AND NO MUSIC PLAYING, YOU WILL HEAR THE NORMAL NOISE OF THE GEAR TRAIN IN OPERATION. THIS TURNTABLE IS NOT DESIGNED FOR LISTENING IN A QUIET ROOM, BUT FOR USE IN A SQUARE DANCE HALL. THE GEAR NOISE OF THE MOTOR WILL NOT TRANSMIT OVER THE SPEAKERS, EVEN AT HIGH DRIVE LEVELS.

SPEED CONTROL LEVER: ADJUSTS TURNTABLE SPEED FROM 30 TO 50 RPM. IN THE OFF POSITION, DRIVE WHEEL IS DISENGAGED FROM THE UNDERSIDE OF THE PLATTER. THE LEVER SHOULD BE PLACED IN THE OFF POSITION WHEN THE AMPLIFIER IS SHUT OFF.

SETUP AND OPERATION

TURN ALL VOLUME CONTROLS OFF AND POWER SWITCH OFF. SET THE OUTPUT SELECTOR SWITCH TO NORMAL AND ALL TONE CONTROLS AT NORMAL.

SET UP SPEAKER OR SPEAKERS, LOCATING THEM WELL ABOVE THE HEADS OF THE DANCERS, AND POSITIONED SO THAT THEIR CONE OF SOUND COVERS ALL AREAS OF THE FLOOR. CONNECT THEM TO THE MAIN CHANNEL SOCKETS ON THE REAR PANEL.

PLUG IN YOUR MICROPHONE. CHECK TO BE SURE THAT THE POWER SOURCE IS NOT 220 VOLTS, WHICH COULD SERIOUSLY DAMAGE YOUR AMPLIFIER. PLUG IN THE POWER CORD, AND TURN THE SYSTEM ON. START THE TURN- TABLE AND CHECK TO SEE THAT IT STROBES CORRECTLY. TURN ON THE MICROPHONE, SET VOLUME AT ABOUT 9 O'CLOCK, AND TEST BY SPEAKING INTO IT--NOT BY BLOWING INTO IT. PUT A RECORD ON, AND CHECK BOTH CHANNELS BY LISTENING TO EACH, IF YOU USE THE HILTON MONITOR RECORD CASE, CONNECT IT TO THE MONITOR CHANNEL. WHEN SETTING UP IN A STRANGE HALL, IF TIME PERMITS PUT ON A CALLED RECORD AND WALK THE FLOOR TO BE SURE THAT SPEAKERS ARE LOCATED PROPERLY, AND DETERMINE WHAT DRIVE LEVEL IS REQUIRED TO COVER THE ENTIRE FLOOR WITH COMFORTABLE SOUND.

IF YOU USE A CALLER'S MONITOR FOR YOURSELF, ALWAYS START EACH TIP WITH ITS VOLUME SHUT OFF, UNTIL YOU HAVE MADE SURE THAT TOTAL VOLUME AND VOICE-MUSIC BALANCE ARE PROPERLY SET FOR THE DANCERS' COMFORT, THEN USE AS MUCH MONITOR VOLUME AS YOU WISH.

SEE ALSO THE SECTIONS ON REMOTE CONTROL JACK, MICROPHONE TREBLE- BASS CONTROL, MONITOR, MONITOR CONTROLS, OUTPUT SELECTOR SWITCH, SPEAKER HOOKUP, USE OF THE OUTPUT METER, GETTING THE MOST OUT OF YOUR HILTON.

TURNTABLE MAINTENANCE AND ADJUSTMENT

THE SV2 TURNTABLE HAS A HYSTERESIS-SYNCHRONOUS MOTOR, WHICH RUNS AT ABSOLUTELY CONSTANT SPEED. ANY FLUCTUATION OF TURNTABLE SPEED IS THE RESULT OF SLIPPAGE BETWEEN THE DRIVE WHEEL AND THE UNDER SIDE OF THE TURNTABLE PLATTER. SUCH SLIPPAGE CAN BE CAUSED BY AN ACCUMULATION OF OILY FILM ON THE UNDERSIDE OF THE PLATTER AND/OR THE RUBBER RIM OF THE DRIVE WHEEL, OR BY THE SHAFT AND SEARING BECOMING DRY OR DIRTY.

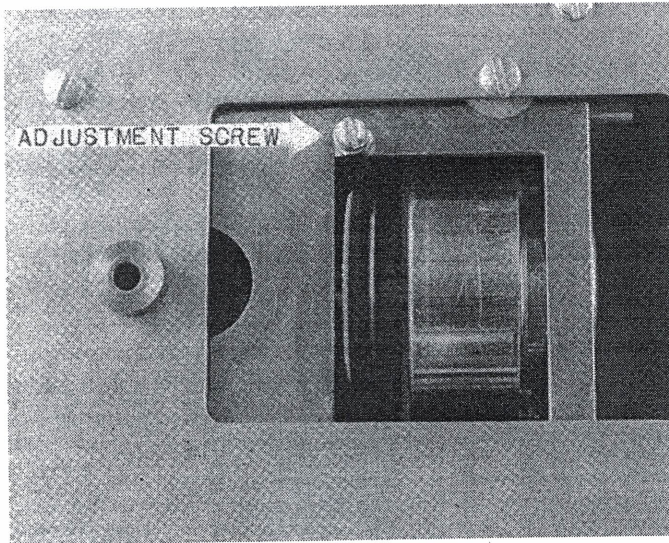
FOR ROUTINE MAINTENANCE, YOU SHOULD OBTAIN AN AEROSOL CAN OF A NON-LUBRICATING CLEANER OF THE TYPE USED FOR CLEANING RADIO AND TV CONTROLS AND TUNERS, AND A SMALL CAN OF LIGHT OIL. EVERY THREE MONTHS, OR OFTENER IF NECESSARY FOLLOW THE PROCEDURE DESCRIBED BELOW FOR CLEANING, LUBRICATION, AND ADJUSTMENT OF YOUR SV2 TURN- TABLE, TO KEEP IT IN TOP OPERATING CONDITION:

1. BEING CAREFUL NOT TO LOSE THE 3/16" BALL BEARING FROM THE BOTTOM OF THE TURNTABLE SHAFT WELL, LIFT THE PLATTER STRAIGHT OUT. WITH A CLEAN CLOTH DAMPENED WITH THE AEROSOL CLEANER, THOROUGHLY CLEAN THE UNDERSIDE OF THE PLATTER INSIDE THE PAPER STROBE DISC, THE RUBBER RIM OF THE DRIVE WHEEL, AND THE TURN- TABLE SHAFT AND BRASS BEARING INTO WHICH IT FITS. PUT A LIGHT FILM OF OIL ON THE SHAFT, MAKE SURE THE BALL BEARING IS IN PLACE, AND REPLACE THE PLATTER, IF ANY SLIPPAGE WAS OCCURRING BECAUSE OF BUILDUP OF OILY FILM ON THE WHEEL OR PLATTER, OR BE EXCESSIVE FRICTION IN THE SHAFT REARING, THIS WILL CORRECT IT AND THE SPEED WILL NOW HOLD CONSTANT.
2. IF THE BALL BEARING IS IN PLACE, THE TURNTABLE IS CLEAN AND PROPERLY LUBRICATED, AND THE SPEED STILL DOES NOT HOLD CONSTANT, IT IS THE RESULT OF INCORRECT PRESSURE OF THE DRIVE WHEEL ON THE UNDERSIDE OF THE PLATTER, THIS PRESSURE IS CONTROLLED BY A SPRING WHICH EXERTS UPWARD PRESSURE ON THE MOTOR MOUNT, AND ITS TENSION CAN BE CHANGED IF THE UNIT SHOULD BE DROPPED OR ROUGHLY HANDLED. ITS PRESSURE CAN BE CHECKED AND ADJUSTED AS FOLLOWS:

START TURNTABLE RUNNING AND SET SPEED SO THAT STROBE SHOWS 45 RPM.

STOP THE TURNTABLE WITH YOUR FINGER. WHEN YOU LET GO, IT SHOULD REACH NORMAL SPEED IN LESS THAN ONE REVOLUTION, IF IT TAKES MORE THAN ONE REVOLUTION TO REACH NORMAL SPEED THE SPRING TENSION IS PROBABLY TOO WEAK. ADJUSTMENT IS QUITE SIMPLE.

TO ADJUST SPRING TENSION: LIFT THE PLATTER, AND LOCATE THE SLOTTED ADJUSTMENT



SCREW BESIDE DRIVE WHEEL. LOOSEN THE LOCK NUTS AND TURN THE ADJUSTMENT SCREW CLOCKWISE TO DECREASE SPRING TENSION OR COUNTER-CLOCKWISE TO INCREASE TENSION. IF YOU OVER-TIGHTEN THE SPRINGS THE SOFT RIM OF THE DRIVE WHEEL WILL BE COMPRESSED, AND THE TURNTABLE WILL RUN A BIT SLOW. WHEN TENSION IS CORRECT. TO TIGHTEN THE LOCK NUTS RECHECK ALL OF THE STEPS LISTED ABOVE, AND THE TURNTABLE IS READY FOR USE.

TO CHECK AND ADJUST SPRING FEET: SET THE UNIT ON A TABLET AND CHECK TO SEE IF ANY OF THE SPRING FEET ARE BOTTOMING OUT FROM THE WEIGHT OF

THE UNIT. THESE SPRINGS SHOULD BE ADJUSTED SO THAT THEY SUPPORT THE WEIGHT ABOUT MID-WAY BETWEEN THE TOP AND BOTTOM OF THE TRAVEL ALLOWED BY THE RETAINERS. IF NECESSARY, REMOVE ONE OR MORE RETAINERS, STRETCH OR COMPRESS THE SPRINGS TO PROPER TENSION, AND REPLACE.

BE SURE TO REINSTALL EACH SPRING IN THE SAME LOCATION FROM WHICH YOU REMOVED IT. EACH SPRING SUPPORTS A DIFFERENT AMOUNT OF WEIGHT, AND MUST HAVE A DIFFERENT TENSION FROM THE OTHERS.

SPEAKER HOOKUP--AC-300

ONE SPEAKER:

PLUG THE SPEAKER INTO THE DESIRED CHANNEL,

TWO 8 OHM SPEAKERS TO THE SAME CHANNEL :

EITHER PLUG BOTH SPEAKERS DIRECTLY INTO THE AMPLIFIER, OR PLUG ONE SPEAKER INTO THE AMPLIFIER AND THE OTHER INTO THE SOCKET ON THE TOP OF THE FIRST SPEAKER.

SPEAKERS OTHER THAN 8 OHM SPEAKERS:

BEFORE CONNECTING TWO SPEAKERS TO THE SAME CHANNEL, FIRST FIND OUT THEIR IMPEDANCE. IF THEY ARE **16 OHM** SPEAKERS, USE THE SAME HOOKUP AS FOR 8 OHM SPEAKERS. IF THEY ARE **4 OHM** SPEAKERS, PLUG ONE OF YOUR SERIES "Y" CONNECTORS INTO THE AMPLIFIER, AND CONNECT ONE SPEAKER TO EACH LEG OF THE "Y" CONNECTOR. CHECK THE POWER RATING OF THE SPEAKERS AND BE CAREFUL NOT TO EXCEED IT. OVER-DRIVING OF A SPEAKER WITH A LOW POWER RATING CAN CAUSE ANY OF THE FOLLOWING: 1. DISTORTION OF THE PROGRAM. 2. VOICE COIL MAY BECOME JAMMED AT ONE END OF ITS EXCURSION, MAKING THE SPEAKER IN- OPERATIVE. 3. A SHORT CIRCUIT MAY OCCUR IN THE VOICE COIL, RUINING THE SPEAKER AND POSSIBLY CAUSING DAMAGE TO YOUR AMPLIFIER.

MORE THAN TWO SPEAKERS:

DO NOT CONNECT MORE THAN TWO SPEAKERS TO THE SAME CHANNEL WITHOUT CAREFULLY READING THE INSTRUCTIONS WHICH FOLLOW, AND THE DIAGRAMS AT THE END OF THIS MANUAL.

THE MINIMUM IMPEDANCE LOAD FOR THE AC-300 AMPLIFIER IS 4 OHMS. TWO 8 OHM SPEAKERS CONNECTED AS DESCRIBED ABOVE PRODUCE A 4-OHM LOAD. IF YOU SHOULD CONNECT FOUR SPEAKERS DIRECTLY TO THE SAME CHANNEL, THIS PARALLEL CONNECTION PRODUCES A 2-OHM LOAD, WHICH AT HIGH DRIVE LEVELS WILL PRODUCE EXCESSIVE ENERGY WHICH IS DISSIPATED IN THE FORM OF HEAT, YOUR AMPLIFIER HAS A BUILT-IN DEVICE WHICH PROTECTS IT AGAINST OVERHEATING, SHOULD THIS OCCUR, **IT WILL SHUT ITSELF OFF AND WILL NOT RESTART UNTIL EXCESSIVE HEAT HAS DISSIPATED.** NO DAMAGE MAY OCCUR TO THE AMPLIFIER OR SPEAKERS, BUT YOUR PROGRAM WILL SUFFER AN EMBARRASSING INTERRUPTION, **CAUSED SOLELY BY INCORRECT SPEAKER HOOKUP.** THE HOOKUP DIAGRAMS AT THE END OF THIS MANUAL SHOW CORRECT USE OF THE SERIES "Y" CONNECTORS FOR HOOKUP OF 4, 6, AND 8 SPEAKERS, TO OBTAIN EQUAL VOLUME LEVEL FROM EACH SPEAKER AND TO MAINTAIN PROPER NET IMPEDANCE.

IF YOU MUST USE A SPEAKER HOOKUP NOT SHOWN IN THESE DIAGRAMS, OR IF YOU PLAN MULTIPLE HOOKUP OF SPEAKERS, THE FOLLOWING POINTS MUST BE CONSIDERED:

1. YOU MUST USE A HOOKUP WHICH WILL PRODUCE A NET IMPEDANCE OF NOT LESS THAN 4 OHMS TO ONE AMPLIFIER CHANNEL.
2. THE NET IMPEDANCE TO EACH LEG OF A SERIES "Y" CONNECTOR SHOULD BE THE SAME, OR THE SPEAKERS DRIVEN BY ONE LEG WILL RECEIVE MORE ENERGY AND THEREFORE PRODUCE MORE VOLUME THAN THOSE DRIVEN BY THE OTHER LEG.

3. DIFFERENT MAKES AND TYPES OF SPEAKERS HAVE DIFFERENT DEGREES OF EFFICIENCY AND WILL PRODUCE DIFFERENT SOUND VOLUMES WHEN DRIVEN AT THE SAME AMPLIFIER OUTPUT LEVEL. MIXING THEM IS NOT RECOMMENDED, BUT IF YOU MUST DO SO, USE THE MORE EFFICIENT SPEAKERS NEAREST THE CENTER TO COVER THE MAIN PORTION OF THE FLOOR, AND THE LESS EFFICIENT ONES AT THE ENDS TO COVER THE TWO FRONT CORNERS OF THE FLOOR.

HOW TO DETERMINE NET IMPEDANCE:

TO DETERMINE THE NET IMPEDANCE OF A GIVEN SPEAKER HOOKUP, IT IS NECESSARY TO UNDERSTAND AND APPLY THE FOLLOWING:

IMPEDANCE: THE RESISTANCE PRODUCED BY THE VOICE COIL OF A SPEAKER, EXPRESSED IN OHMS. HILTON SPEAKERS ARE 8-OHM SPEAKERS: OTHERS MAY HAVE VARYING IMPEDANCES, USUALLY FROM 4 TO 16 OHMS

PARALLEL CONNECTION: A HOOKUP IN WHICH THE OUTPUT OF AN AMPLIFIER IS DIVIDED AMONG SPEAKERS, WITH PART OF THAT OUTPUT GOING TO EACH SPEAKER. THE SPEAKER SOCKETS ON YOUR MAIN CHANNEL ARE CONNECTED IN PARALLEL WITH EACH OTHER, AS ARE THOSE OF THE MONITOR CHANNEL. THE PLUG AND SOCKET ON TOP OF EACH HILTON SPEAKER ARE ALSO IN PARALLEL WITH EACH OTHER.

SERIES CONNECTION: A HOOKUP IN WHICH ALL OF THE AMPLIFIER OUTPUT PASSES THROUGH EACH SPEAKER IN TURN, INSTEAD OF BEING DIVIDED AMONG THEM. IF YOU PLUG A SERIES "Y" CONNECTOR INTO THE AMPLIFIER AND CONNECT ONE SPEAKER TO EACH LEG, YOU HAVE THE SPEAKERS CONNECTED IN SERIES,

SERIES-PARALLEL CONNECTION: IF YOU HAVE TWO GROUPS OF PARALLEL CONNECTED SPEAKERS, AND CONNECT EACH GROUP TO ONE LEG OF A SERIES "Y" CONNECTOR, YOU HAVE A SERIES-PARALLEL CONNECTION.

NET IMPEDANCE: THE COMBINED IMPEDANCE OF ALL OF THE SPEAKERS IN THE HOOKUP:

IN PARALLEL--THE IMPEDANCE OF 1 SPEAKER, DIVIDED BY THE NUMBER OF SPEAKERS.

IN SERIES--THE IMPEDANCE OF 1 SPEAKER. MULTIPLIED BY THE NUMBER OF SPEAKERS.

IN SERIES-PARALLEL--THE NET IMPEDANCE OF EACH PARALLEL GROUP, MULTIPLIED BY THE NUMBER OF GROUPS.

THE USE OF THE OUTPUT METER

THE AC-300 HAS A VUMETER BUILT INTO THE TOP DECK OF THE AMPLIFIER.

THE OUTPUT METER IS A VERY VALUABLE ACCESSORY, ONCE YOU HAVE LEARNED HOW TO EVALUATE THE INFORMATION THAT IT GIVES YOU, IT KEEPS YOU INFORMED OF THREE IMPORTANT THINGS, THE TOTAL VOLUME OF THE PROGRAM GOING TO THE FLOOR, THE VOLUME OF THE MUSIC GOING TO THE FLOOR, AND THE BALANCE BETWEEN THE VOICE AND MUSIC.

FIRST: THE TOTAL VOLUME ON THE FLOOR: FOR ANY GIVEN DANCE, IT IS DESIRABLE TO HAVE

ENOUGH VOLUME SO THAT EVERYONE IN THE HALL CAN HEAR COMFORTABLE, WITHOUT BEING SO LOUD AS TO ANNOY THE DANCERS, PARTICULARLY IN THE FRONT OF THE HALL. ONCE YOU HAVE ESTABLISHED WHAT THE PROPER VOLUME SHOULD BE, YOU CAN CHECK THE METER READING AND IT IS VERY EASY TO MAINTAIN THE PROPER SOUND LEVEL THROUGHOUT THE EVENING, WITHOUT GUESSWORK.

SECOND: THE VOICE-MUSIC BALANCE: IN MOST CASES, THIS CAN BE CHECKED EASILY BY MERELY LISTENING TO A FLOOR SPEAKER AS YOU CALL TO DETERMINE THAT YOUR VOICE IS COMING THROUGH CLEARLY OVER THE MUSIC SO THAT THE DANCERS DO NOT HAVE TO STRAIN TO PICK OUT YOUR COMMANDS, BUT IN SOME CASES WHERE YOU HAVE A RECESSED STAGE, AND THE FLOOR SPEAKERS ARE OUT IN FRONT AND TO THE SIDES OF THE STAGE, IT IS ALMOST IMPOSSIBLE TO CHECK BALANCE FROM A FLOOR SPEAKER, BY ESTABLISHING THE METER READING FOR PROPER TOTAL VOLUME AND THE READING FOR MAXIMUM MUSIC VOLUME THAT WILL NOT INTERFERE WITH COMMAND, YOU CAN MAINTAIN PROPER VOLUME AND BALANCE WITHOUT HAVING TO RELY ON SOMEONE ON THE FLOOR TO HELP YOU.

THIRD: THE MUSIC VOLUME: IT MUST BE FAR ENOUGH BELOW THE VOICE VOLUME THAT YOUR COMMANDS CAN BE EASILY DISTINGUISHED. WHILE STILL BEING LOUD ENOUGH FOR THE DANCERS TO HEAR THE BEAT AND THE MELODY, ESPECIALLY IN THE CASE OF A SINGING CALL. IT WOULD BE NICE IF ALL SQUARE AND ROUND DANCE RECORDS WERE RECORDED AT THE SAME LEVEL, BUT THEY ARE NOT. HERE'S AN EXPERIMENT YOU MIGHT TRY: SET UP YOUR EQUIPMENT, SET THE OUTPUT SELECTOR SWITCH AT NORMAL, PHONO BASS AND TREBLE CONTROLS AT NORMAL, AND PHONO VOLUME AT 9 O'CLOCK. PLAY SEVERAL OF YOUR RECORDS, AND CHECK THE METER READINGS. IF YOUR COLLECTION IS TYPICAL, YOU MAY HAVE READINGS AS LOW AS 2 AND AS HIGH AS 6, WITH THE SAME VOLUME SETTING. IT IS OBVIOUS THAT EACH TIME YOU CHANGE RECORDS IT IS NECESSARY TO ADJUST YOUR PHONO VOLUME TO MAINTAIN PROPER VOICE-MUSIC BALANCE.

NOW, TO PUT THE THREE THINGS TOGETHER--LET'S TAKE FOR EXAMPLE A HALL IN WHICH THE PROPER TOTAL VOLUME TO COVER THE FLOOR READS 8 ON YOUR METER. FOR CORRECT BALANCE, THE MUSIC VOLUME SHOULD NEVER GET ABOVE 6, AND IT SHOULD AVERAGE PERHAPS 4 OR 5. AS YOU CALL YOUR DANCE, YOU WILL NOT HAVE TO CHANGE YOUR MIKE VOLUME SETTING ONCE THE CROWD HAS ALL ARRIVED: BUT YOU WILL CONSTANTLY HAVE TO ADJUST YOUR PHONO VOLUME UP AND DOWN TO MAINTAIN THE PROPER VOICE-MUSIC BALANCE. THE OUTPUT METER CAN BE A VERY VALUABLE AID IN DOING SO.

MAKING TAPE RECORDINGS FROM YOUR HILTON

BY FOLLOWING CAREFULLY THESE INSTRUCTIONS FOR HOOKUP, YOU CAN MAKE EXCELLENT RECORDINGS WITH EITHER A REEL-TO-REEL OR CASSETTE RECORDER, DIRECTLY FROM YOUR HILTON AMPLIFIER.

DO NOT MAKE TAPE RECORDINGS BY CONNECTING TO THE SPEAKER SOCKETS.

SOME TAPE RECORDERS HAVE A SHORTING SWITCH ACROSS THEIR INPUT. IF YOU PLUG ONE OF THESE INTO A SPEAKER SOCKET, IT WILL CAUSE THE AMPLIFIER TO OVERHEAT AND SHUT ITSELF OFF.

REEL-TO-REEL RECORDERS: USE A SHIELDED CABLE WITH A PLUG ON ONE END WHICH FITS THE TAPE RECORD JACK ON THE REAR PANEL (1/4 INCH) AND A PLUG ON THE OTHER END WHICH FITS THE **MICROPHONE** INPUT ON THE RECORDER. DO NOT USE ANY OTHER INPUT TO MAKE A TAPE FROM THE HILTON. BE CAREFUL NOT TO OVER-RECORD--THIS WILL MAKE THE PLAYBACK SOUND MUSHY. IF YOU UNDER-RECORD, YOUR HILTON HAS PLENTY OF POWER TO PRODUCE ALL

OF THE PLAYBACK VOLUME THAT YOU WISH, AND THE PROGRAM WILL BE CLEAN. IF THE RECORDER HAS A DISTORTION LIGHT OR A LEVEL METER, USE IT TO PREVENT OVER-RECORDING.

CASSETTE RECORDERS: THE CORRECT HOOKUP IS THE SAME AS THAT DESCRIBED ABOVE, TAPE RECORD JACK TO MICROPHONE INPUT, A SPECIAL CORD MAY BE REQUIRED WITH A RESISTANCE NETWORK BUILT IN, SINCE MANY CASSETTE RECORDERS ARE EXTREMELY SENSITIVE IN THE INPUT SECTION, AND SUSCEPTIBLE TO OVER-RECORDING IF A STRONG SIGNAL IS FED IN. IF YOU HAVE TROUBLE WITH OVER-RECORDING ON A CASSETTE, WE HAVE AVAILABLE A CORD MADE UP FOR THE PURPOSE, WITH A 1/8 IN (3.5mm) PLUG ON THE END WHICH GOES TO THE RECORDER, IF THIS PLUG DOES NOT FIT THE MIC INPUT ON YOUR CASSETTE, PLEASE SPECIFY THE MAKE AND NUMBER OF THE PLUG THAT YOU REQUIRE.

PLAYING BACK A TAPE THROUGH YOUR HILTON

DO NOT USE MICROPHONE INPUTS FOR TAPE PLAYBACK. WHILE IT IS POSSIBLE TO PLAY BACK A TAPE BY PLUGGING INTO A MICROPHONE CHANNEL, IT IS NOT RECOMMENDED, FOR 2 REASONS: FIRST, SOME TAPE RECORDERS WITH BUILT-IN AMPLIFIERS HAVE THE CAPACITY, IF THEY'RE OUTPUT VOLUME IS ACCIDENTALLY TURNED FULL ON, TO SERIOUSLY DAMAGE THE MICROPHONE INPUT SECTION OF YOUR AMPLIFIER. SECOND, EVEN IF YOU ARE USING A LOW-POWERED RECORDER OR A TAPE DECK, THE TREBLE-BASS COMPENSATION LATITUDE IS NOT AS SATISFACTORY FROM THE SINGLE CONTROL ON THE MICROPHONE INPUT, AS COMPARED WITH THAT OF THE DUAL PHONO CONTROLS-

TO PLAY BACK A TAPE THROUGH YOUR HILTON, USE A SHIELDED CABLE WITH A PLUG ON ONE END WHICH FITS THE EXTERNAL SPEAKER OUTPUT ON THE RECORDER. FOR THE AC-300 YOU NEED A PLUG ON THE OTHER END WHICH FITS THE TAPE PLAYBACK JACK ON THE TOP DECK (1/4 IN), SET THE OUTPUT SELECTOR SWITCH ON THE HILTON AT NORMAL AND THE PHONO VOLUME AT ABOUT 9 O'CLOCK. TURN UP ONLY ENOUGH VOLUME ON THE TAPE RECORDER TO GET A SOFT LISTENING LEVEL OF SOUND FROM THE HILTON, THEN USE THE PHONO VOLUME, BASS AND TREBLE CONTROLS ON YOUR AC-300 TO PRODUCE THE VOLUME AND TONE COMPENSATION THAT YOU DESIRE.

CORRECT HOOKUP FOR A SLAVE AMPLIFIER

IN CERTAIN SITUATIONS IT IS DESIRABLE TO USE NOT ONES BUT TWO OR MORE AMPLIFIERS, EACH DRIVING ITS OWN SPEAKERS, FOR PROPER SOUND COVERAGE IN HALL'S WHICH ARE TOO LARGE TO COVER WITH ONE AMPLIFIER, OR TO PUT SOUND IN AN ADDITIONAL ROOM WHICH REQUIRES A DIFFERENT LEVEL OF SOUND THAN THE MAIN HALL, OR TO COVER AN ELL WHICH REQUIRES LESS VOLUME THAN THE MAIN SECTION OF THE FLOOR.

ON YOUR HILTON AMPLIFIER, THE TAPE RECORD JACK IS DESIGNED FOR THIS PURPOSE, AS WELL AS THAT OF MAKING TAPE RECORDINGS. TO CONNECT A SLAVE AMPLIFIER, USE THE FOLLOWING PROCEDURE: SET UP THE MAIN AMPLIFIER WITH ITS SPEAKERS TO COVER THE AREA DESIRED. SET UP THE SLAVE AMPLIFIER WITH ITS SPEAKERS TO COVER ITS ASSIGNED AREA. IF THE SLAVE AMPLIFIER IS TO BE LOCATED NO MORE THAN 30 FEET MAXIMUM FROM THE MAIN AMPLIFIERS PLUG A SHIELDED CABLE FROM THE TAPE RECORD JACK OF THE MAIN AMPLIFIER INTO A MICROPHONE INPUT OF THE SLAVE AMPLIFIER. **SET THE TONE CONTROL OF THIS MICROPHONE INPUT TO FULL BASS, ALL THE WAY COUNTERCLOCKWISE.** PUT A CALLED RECORD ON THE TURNTABLE OF THE MAIN AMPLIFIERS AND TURN UP ENOUGH VOLUME SO THAT ITS ASSIGNED FLOOR AREA IS COVERED WITH SOUND AT A COMFORTABLE LEVEL. THEN TURN UP THE MICROPHONE VOLUME CONTROL ON THE SLAVE AMPLIFIER TO PRODUCE COVERAGE OF ITS AREA AT A COMFORTABLE LEVEL, NO FURTHER ADJUSTMENT OF

THE SLAVE AMPLIFIER WILL BE NECESSARY. EVERY ADJUSTMENT OF VOLUME, TREBLE, OR BASS, WHICH IS MADE ON THE MAIN AMPLIFIER WILL BE DUPLICATED BY THE SLAVE AMPLIFIER.

THE USE OF A PLAIN SHIELDED HIGH IMPEDANCE CABLE OF OVER 30 FEET MAXIMUM IS NOT RECOMMENDED FOR SLAVE HOOKUP, IF THE SLAVE AMPLIFIER MUST BE LOCATED MORE THAN 30 FEET FROM THE MAIN AMPLIFIER, YOU SHOULD USE SUFFICIENT LENGTH OF LOW 1/4 IN. PLUG OR ITS EQUIVALENT. PLUG ONE TRANSFORMER INTO THE TAPE RECORD JACK ON THE MAIN AMPLIFIER, CONNECT THE LOW IMPEDANCE CABLE TO THIS TRANSFORMER, CONNECT THE OTHER TRANSFORMER TO THE OTHER END OF THE CABLE. PLUG THE SECOND TRANSFORMER INTO THE MICROPHONE INPUT OF THE SLAVE AMPLIFIERS AND PROCEED AS OUTLINED ABOVE.

GETTING THE MOST FROM YOUR HILTON, AND AVOIDING DAMAGE TO IT

MICROPHONE TECHNIQUE

ALWAYS WORK CLOSE TO YOUR MIKE--NEVER LET IT GET AS MUCH AS AN INCH AWAY FROM YOUR LIPS- WORK STRAIGHT INTO ITS AS MUCH AS POSSIBLE- HOLDING THE MIKE TOO FAR FROM YOUR LIPS, OR CALLING ACROSS IT RATHER THAN INTO ITS CAN ROB YOU OF MORE THAN HALF OF THE POWER WHICH IS BUILT INTO YOUR HILTON.

SPEAKER LOCATION

SPEAKERS SHOULD BE PLACED SO THAT THE ENTIRE FLOOR IS COVERED WITH SOUND, THEY MUST BE HIGH ENOUGH SO THAT WHEN THE SOUND LEVEL AT THE REAR OF THE HALL IS COMFORTABLE, IT IS NOT DEAFENING TO THE DANCERS IN THE FRONT. SPEAKERS SHOULD, IF POSSIBLE, BE AIMED DIRECTLY AT THE HEADS OF THE DANCERS AT THE REAR, AND PLACED HIGH ENOUGH SO THE MOST INTENSE PART OF THE BEAM OF SOUND PASSES OVER THE HEADS OF THE DANCERS AT THE FRONT. THEY SHOULD IF POSSIBLE BE PLACED NEAR ENOUGH TO YOU SO THAT YOU CAN HEAR THE VOICE-MUSIC BALANCE, BUT NOT SO CLOSE THAT YOU ARE CONTINUALLY FIGHTING FEEDBACK.

FEEDBACK

THE FEEDBACK SQUEAL CAN OCCUR ANY TIME THAT VOLUME IS TURNED UP ON AN AMPLIFIER AND AN OPEN MIKE IS NEAR A SPEAKER. THE MORE VOLUME IS TURNED UP, OR THE CLOSER THE MIKE IS TO THE SPEAKER, THE LOUDER THE FEEDBACK WILL BE. THE SQUEAL IS CAUSED BY SOUND FROM THE SPEAKER BEING PICKED UP BY THE MIKE AND FED BACK INTO THE AMPLIFIER. IT IS ALMOST ALWAYS THE RESULT OF BAD MIKE TECHNIQUE--WORKING SO FAR FROM YOUR MIKE THAT YOU HAVE TO TURN UP AN EXCESS OF VOLUME IN ORDER TO COVER THE FLOOR. IT CAN ALSO BE CAUSED BY STANDING TOO CLOSE TO, OR IN FRONT OF, A FLOOR SPEAKER. ONLY VERY RARELY IS FEEDBACK CAUSED BY ANY DEFECT IN THE MIKE OR AMPLIFIER.

HANDLING AND TRANSPORTATION

YOUR HILTON IS DESIGNED FOR RUGGEDNESS, AND WITH THE NORMAL HANDLING TO BE EXPECTED IN PORTABLE USE, IT WILL GIVE YEARS OF TROUBLE FREE SERVICE. IT SHOULD BE PROTECTED AS MUCH AS POSSIBLE FROM DROPPING AND BANGING AROUND, OBVIOUSLY. FOR TRANSPORTATION TO AND FROM YOUR DANCES, IT MAY BE STOWED IN ANY POSITION FOR CONVENIENCE, AS LONG AS IT IS PROTECTED FROM BEING SCRATCHED AND BUMPED IN HAULING. IT IS RECOMMENDED THAT THE AMPLIFIER **NOT** BE LOADED SO THAT ITS WEIGHT IS SUPPORTED BY THE SPRING FEET, TO AVOID FATIGUING THESE SPRINGS AND SHORTENING THEIR LIFE.

NEEDLE CARE

THE CARTRIDGE FURNISHED IS A SLIP-IN CERAMIC CARTRIDGE. IT SHOULD LAST FOR HUNDREDS OF HOURS OF NORMAL USE, BUT CARE SHOULD BE TAKEN NOT TO DRAG IT ACROSS THE RECORD, OR TO DROP IT EITHER ON THE RECORD OR ON THE EXPOSED METAL OF THE TURNTABLE. A SOFT FOAM PAD IS PROVIDED AS A NEEDLE REST WHEN CHANGING RECORDS, THIS PAD ALSO ASSISTS IN REMOVING DUST FROM THE NEEDLE. ALWAYS LOCK THE TONE ARM IN ITS CLIP FOR CARRYING. TO REMOVE THE CARTRIDGE, GRASP IT AT THE SIDES AND PULL STRAIGHT OUT.

ROUTINE MAINTENANCE AND INSPECTION

CLEANING AND MAINTENANCE OF THE TURNTABLE IS COVERED IN DETAIL IN ANOTHER SECTION OF THIS MANUAL. ROUTINE CLEANING AND INSPECTION OF YOUR AMPLIFIER, SPEAKERS, MIKE AND CORDS WILL HELP IN PREVENTING TROUBLE AND MAINTAIN THE APPEARANCE AND PERFORMANCE OF YOUR HILTON. HERE ARE A FEW SUGGESTIONS FOR ROUTINE MAINTENANCE AND CHECKUP OF YOUR SOUND SYSTEM:

REMOVING SET FROM CASE

Slide a screwdriver under the chrome handle cover and snap it off, exposing the two screws which hold the handle in place. Remove these screws. On the opposite side of the unit, locate the two rubber feet. Remove the screws that hold these two feet in place.

Before removing the amplifier from the case take off the platter and set it off to the side. Also, make sure the tone arm is locked in its clip. The entire unit will now slide out of the carrying case.

CLEANING OF CONTROLS

IF DUST ENTERS THE OPERATING PARTS OF YOUR VOLUME CONTROLS, IT WILL PRODUCE A NOISE THAT SOUNDS LIKE STATIC WHEN THE KNOBS ARE IN ORDER TO CLEAN THEM YOU MUST REMOVE THE SET FROM ITS CASE.

There are three types of controls and the cleaning is different for each.

- A. If the control is a square AB control a small hole needs to be drilled in the center of the back. Use a 1 / 16 inch drill or smaller, drill within the hexagon but below the line below the AB. Use WD-40 to clean this type.
- B. If the control is round and the metal shell is open near the solder lugs spray with a contact cleaner, available from radio shack.
- C. If you have a series II set the music controls may have a sealed environment. If all five solder lugs are together the control cannot be cleaned.

CLEANING OF EXTERIOR SURFACES

A MILD DETERGENT AND WATER ON A SOFT CLOTH OR SPONGE MAY BE USED TO CLEAN ALL OF THESE SURFACES, INCLUDING THE PLASTIC KNOBS.

CHECKING OF CORDS, PLUGS, & SOCKETS

OVER A PERIOD OF TIME, INSERTION AND REMOVAL OF PLUGS CAUSES THEM AND THEIR SOCKETS TO WEAR--EVENTUALLY TO THE POINT WHERE THEY MAKE INTERMITTENT CONTACT. ALSO, THE CONTACT SURFACES MAY CORRODE FROM MOISTURE IN THE AIR PREVENTING GOOD ELECTRICAL CONTACT, CORDS CAN BECOME FRAYED INSIDE THEIR INSULATION FROM REPEATED FLEXING, AND BECOME INTERMITTENT. PERIODIC INSPECTION CAN TURN UP THE WARNING SIGNALS AND ALLOW YOU TO TAKE ACTION BEFORE A BREAKDOWN ACTUALLY OCCURS- SET UP THE SOUND SYSTEMS PLUG IN YOUR MIKE AND PUT ON A RECORD. AS YOU CALL, WIGGLE EACH PLUG IN ITS SOCKET. STATIC AND INTERRUPTION OF SOUND INDICATE WORN PLUGS AND/OR SOCKETS. FLEX THE MIKE CORD AS YOU CALL, AND LISTEN AGAIN FOR STATIC AND INTERRUPTION OF SOUND. DO THE SAME WITH THE SPEAKER CORDS.

CHECKING THE NEEDLE

ALWAYS KEEP A SPARE NEEDLE, IN CASE OF DAMAGE TO THE ONE YOU ARE USING. THE BEST WAY TO CHECK YOUR NEEDLE, SHORT OF INSPECTION UNDER HIGH MAGNIFICATIONS IS TO PUT ON A RECORD AND LISTEN CAREFULLY, THEN PUT IN THE SPARE NEEDLE AND AGAIN LISTEN TO THE SAME RECORD, TO DETECT ANY DIFFERENCE IN THE SOUND. ONE SYMPTOM OF NEEDLE WEAR IS PARTIAL LOSS OF THE HIGHS IN THE MUSIC, MAKING IT SOUND BASSY.

MICROPHONE

A MICROPHONE IN WHICH THE DIAPHRAGM IS BEGINNING TO DRAG HAS OPPOSITE SYMPTOMS FROM THOSE OF A WORN NEEDLE. THERE WILL BE A LOSS OF BASS IN THE VOICE, THE VOICE MAY SOUND A BIT TINNY, AND THERE MAY BE MORE SUSCEPTIBILITY TO FEEDBACK AT THE SAME VOLUME SETTINGS.

CHECKING SPEAKERS

IF A SPEAKER HAS BEEN DROPPED OR HANDLED ROUGHLY, IT MAY DEVELOP MISALIGNMENT OF THE VOICE COIL WHICH CAN EVENTUALLY CAUSE WHAT IS KNOWN AS A "DRAGGY CONE." TO CHECK FOR A DRAGGING CONE, HOOK UP THE SPEAKER AND PUT ON A RECORD. SHUT THE VOLUME OFF, AND TURN THE PHONO BASS CONTROL TO MAXIMUM AND THE TREBLE CONTROL TO MINIMUM. PUT YOUR EAR IN FRONT OF THE SPEAKERS AND TURN UP ONLY ENOUGH VOLUME SO THAT YOU CAN HEAR THE MUSIC CLEARLY. IF THE CONE IS DRAGGING, YOU WILL HEAR A RASP ON EACH BASS NOTE. THE SPEAKER MAY SOUND NORMAL AT YOUR USUAL VOLUME AND TONE SETTINGS, BUT THE PROBLEM MAY GRADUALLY WORSEN UNTIL THE SPEAKER MUST BE RE-CONED. ANY HILTON SPEAKER WHICH, UNDER NORMAL USES DEVELOPS SUCH A PROBLEM WILL BE REPLACED WITHOUT CHARGE DURING ITS WARRANTY PERIOD, AND AT A NOMINAL EXCHANGE CHARGE AFTER WARRANTY EXPIRES.

HAVING CHECKED THE SPEAKER ITSELF, CHECK THE PLUG AND SOCKET ON TOP OF THE CASE, THEN, WITH BASS AND TREBLE CONTROLS AT NORMAL, TURN UP CONSIDERABLE VOLUME AND LISTEN FOR ANY RATTLE OR VIBRATION CAUSED FROM THE GRILLE OR TRIM,, AND TIGHTEN OR REPLACE SCREWS AS NECESSARY TO CORRECT IT. USE THE SAME TEST PROCEDURES ON YOUR MONITOR SPEAKER, IF YOU HAVE ONE.

IN CASE OF TROUBLE

YOUR HILTON WAS CAREFULLY ASSEMBLED AND TESTED BEFORE DELIVERY TO YOU, IT IS BACKED BY OUR TWO-YEAR WARRANTY AGAINST FAILURE OF ANY COMPONENT IN NORMAL USE, WITH THE SINGLE EXCEPTION OF PHONOGRAPH NEEDLES, WHICH ARE INTRINSICALLY FRAGILE. IF TROUBLE OCCURS FROM ANY CAUSE OTHER THAN ACCIDENT OR ABUSE, WE WILL PROMPTLY HONOR OUR WARRANTY, **PROVIDED THAT YOU NOTIFY US BEFORE ATTEMPTING REPAIR.** UPON SUCH NOTIFICATION, WE WILL MAKE EVERY EFFORT TO CORRECT THE PROBLEM,

BY HAVING REPAIR DONE LOCALLY IF FEASIBLE, BY REPLACEMENT OF THE DEFECTIVE UNIT AT OUR EXPENSE, OR BY FURNISHING LOANER EQUIPMENT FOR YOUR USE WHILE WE DO THE REPAIR.

EVEN WHEN YOUR WARRANTY IS NO LONGER EFFECTIVE, WE ADVISE THAT IF A PROBLEM SHOULD DEVELOP, IT WOULD BE WISE TO PHONE US BEFORE ATTEMPTING REPAIR OR TAKING YOUR UNIT TO A LOCAL SHOP. IT IS QUITE POSSIBLE THAT WE COULD SAVE YOU BOTH TIME AND MONEY, IN GETTING YOUR UNIT BACK INTO OPERATION.

BEFORE NOTIFYING US

IF ANY PART OF YOUR HILTON EQUIPMENT SHOULD DEVELOP A PROBLEM, THE INFORMATION THAT YOU GIVE US SHOULD BE AS DETAILED AS POSSIBLE, IN ORDER FOR US TO IDENTIFY THE SOURCE OF THE TROUBLE AND GIVE YOU PROMPT AND COMPLETE SERVICE. FOR EXAMPLE, IF A MICROPHONE SHOULD STOP WORKING, THE TROUBLE COULD BE 'IN THE MIKE ITSELF, IN THE CORD, OR IN THE AMPLIFIER, A FEW SIMPLE TESTS WOULD BE OF GREAT HELP TO US IN ISOLATING THE TROUBLE AND CORRECTING IT QUICKLY. LISTED BELOW ARE SOME TESTS YOU COULD MAKE, WHICH WOULD GREATLY EXPEDITE REPAIR IF YOU SHOULD HAVE AN EQUIPMENT PROBLEM-

STROBE LIGHT ON, TURNTABLE OPERATES, NO VOICE OR MUSIC

RECHECK YOUR SPEAKER HOOKUP. PLUG SPEAKER INTO MONITOR CHANNEL TO SEE IF IT OPERATES. CHECK CORD(S) AND SPEAKER(S) IF POSSIBLE BY CONNECTING THEM TO ANOTHER AMPLIFIER. THIS WILL DETERMINE WHETHER THE PROBLEM IS IN THE AMPLIFIER, THE SPEAKER, THE CORD OR THE HOOKUP.

CIRCUIT BREAKER OPENS

TURN OFF POWER SWITCH, PRESS RESET BUTTON, TURN ON POWER. IF BREAKER AGAIN OPENS AND LINE VOLTAGE IS NORMAL, DISCONNECT SPEAKER CORDS AND CHECK AGAIN. IF BREAKER NOW REMAINS CLOSED, PROBLEM IS IN CORD OR SPEAKER, IF BREAKER REPEATEDLY OPENS, PROBLEM IS IN THE AMPLIFIER.

MUSIC ONLY--NO VOICE

CHANGE TO THE OTHER MICROPHONE INPUT. CHECK TO SEE IF THE MONITOR CHANNEL OPERATES. CHECK MIC INPUTS BY PLUGGING IN ANOTHER MICROPHONE. IF POSSIBLE, SWITCH CORDS ON THE MICROPHONE AND RECHECK.

VOICE ONLY--NO MUSIC

CHANGE NEEDLES. CHECK TO SEE IF PROBLEM AFFECTS BOTH MAIN AND MONITOR CHANNELS. IF POSSIBLE, CHECK THE PHONO CHANNEL BY PLUGGING IN A TAPE RECORDER OR TUNER TO THE TAPE PLAYBACK JACK ON THE TOP DECK TO DETERMINE IF THE PROBLEM ORIGINATES IN THE AMPLIFIER OR IN THE TONE ARM.

DISTORTION

CHECK TO SEE IF BOTH VOICE AND MUSIC ARE DISTORTED, IF **MUSIC ONLY**, CHANGE NEEDLES. IF **VOICE ONLY**, TRY A DIFFERENT MICROPHONE; CHECK BOTH MIC INPUTS. CHECK TO SEE IF BOTH MAIN AND MONITOR CHANNELS ARE AFFECTED. IF **BOTH VOICE AND MUSIC** ARE DISTORTED, CHECK IF POSSIBLE WITH ANOTHER SPEAKER TO SEE IF DISTORTION PERSISTS. IF USING TWO SPEAKERS, CHECK THEM ONE AT A TIME TO SEE IF BOTH ARE DISTORTING.

SPEAKER DEAD OR INTERMITTENT

CHECK TO BE SURE HOOKUP IS CORRECT. PLUG THE SPEAKER INTO THE MONITOR CHANNEL AND RECHECK. SWITCH CORDS AND SPEAKERS TO SEE IF THE FAULT LIES WITH THE CORD OR THE

SPEAKER.

ONE CHANNEL DEAD

CHECK AS ABOVE FOR DEAD SPEAKER OR OPEN SPEAKER CORD.

AMPLIFIER GOES DEAD

RECHECK AC HOOKUP AND SOURCE OF AC POWER. CHECK AMPLIFIER FOR EXCESSIVE HEAT: FEEL THE TEMPERATURE OF THE AREAS AT THE RIGHT AND LEFT SIDE OF THE TOP DECK ABOVE THE FRONT CONTROL PANEL. IF ONE SIDE IS VERY WARM, MAKE A NOTE OF WHICH SIDE. IF USING MORE THAN TWO SPEAKERS MAKE SURE THAT "Y" CONNECTORS ARE IN USE AND PROPERLY CONNECTED. MAKE SURE THAT NO TAPE RECORDER IS CONNECTED TO ANY SPEAKER OR SPEAKER SOCKET.

TO PROTECT YOUR WARRANTY

THE HILTON WARRANTY AND CUSTOMER SERVICE POLICY ARE OUTSTANDING, IN THE SQUARE DANCE FIELD. IF YOUR HILTON SHOULD DEVELOP A PROBLEM WITHIN TWO YEARS FROM ORIGINAL PURCHASE DATE, IT WILL BE CORRECTED TO YOUR SATISFACTION, AT OUR EXPENSE, WITH NO UNNECESSARY DELAYS, PROVIDED ONLY THAT YOU HAVE DONE NOTHING TO VOID YOUR WARRANTY. **YOU WILL BE REQUIRED TO BEAR PART OR ALL OF THE EXPENSE OF REPAIR AND SHOPPING IF YOU:**

1. ATTEMPT REPAIR OR AUTHORIZE REPAIR WITHOUT FIRST NOTIFYING US AND RECEIVING APPROVAL TO DO SO.
2. HAVE AN ACCIDENT WHICH INVOLVES ALL OR PART OF YOUR SOUND SYSTEM. IF A SPEAKER WHICH HAS BEEN IMPROPERLY SET UP IS DAMAGED BY FALLING, OR IF AN AMPLIFIER IS KNOCKED OFF A TABLE, ETC., SUCH DAMAGE IS NOT COVERED BY WARRANTY.
3. USE ANY CONNECTION OR HOOKUP WHICH IS STATED IN THIS MANUAL TO BE IMPROPER AND LIKELY TO CAUSE DAMAGE TO YOUR SOUND SYSTEM-
4. CONNECT TO ANY MOTOR GENERATOR OR INVERTER, OR TO ANY OTHER POWER SOURCE THAN 110-120 VOLTS AC.
5. MODIFY OR ALTER THE SOUND SYSTEM IN ANY WAY. ANY PERMANENT MODIFICATIONS, SUCH AS THE ADDITION OF INPUTS OR OUTLETS TO THE AMPLIFIER, INSTALLATION OF HILTON SPEAKERS IN OTHER THAN HILTON ENCLOSURES, ETC., WILL VOID YOUR WARRANTY.

REPLACEMENT PARTS

OVER AN EXTENDED PERIOD OF TIME, SOME OR ALL OF THE FOLLOWING PARTS MAY NEED TO BE REPLACED. IF ANY OF THESE PARTS, EXCEPT FOR PHONO NEEDLES, SHOULD REQUIRE REPLACEMENT DURING THE WARRANTY PERIOD, THEY WILL BE FURNISHED TO YOU AT NO CHARGE, IF YOU SHOULD EVER NEED TO PURCHASE THESE PARTS LOCALLY, ASK FOR THEM BY THE NUMBERS SHOWN BELOW, ANY OF THEM WHICH ARE NOT AVAILABLE IN YOUR AREA MAY BE PURCHASED FROM US, FOR NON-WARRANTY REPLACEMENT.

STROBE ILLUMINATION BULB--No. NE51H OR B2A HIGH INTENSITY NEON

SPEAKER SOCKETS: REAR PANEL-- * CINCH-JONES S-302-AB OR EQUIVALENT

PLUG, SPEAKER CORD-- *CINCH-JONES P-302-CCT OR EQUIVALENT

SOCKET, SPEAKER CORD-- * CINCH-JONES S-302-CCT OR EQUIVALENT

PLUG, TOP OF SPEAKER CASE-- * CINCH-JONES P-302-RP OR EQUIVALENT

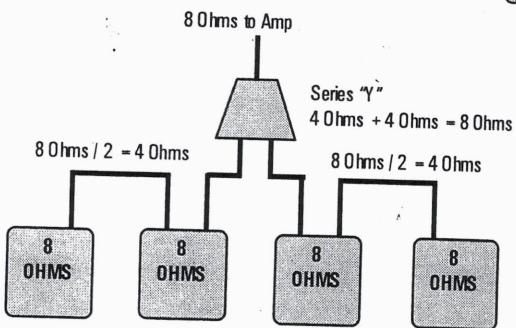
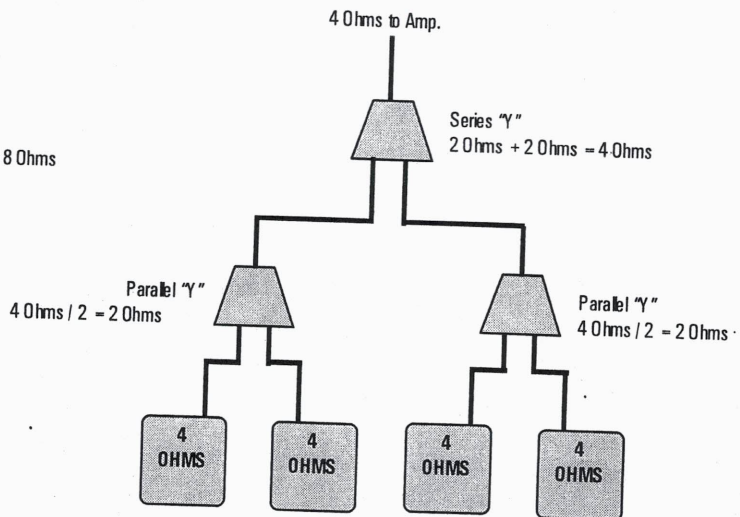
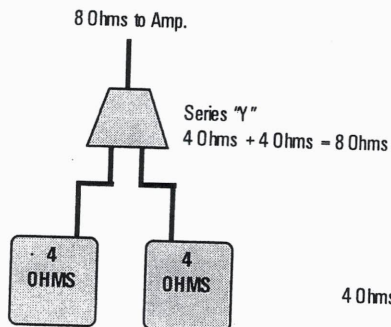
SOCKET, TOP OF SPEAKER CASE-- * CINCH-JONES S-302-RP OR EQUIVALENT

BALL BEARING, SV2 TURNTABLE--3/16" (0-1875) DIAMETER

PHONO CARTRIDGE--ASTATIC No. 89-ID

*CINCH-JONES PLUGS AND SOCKETS ARE THE TWO PRONG TYPE USED IN THE EARLY AC-300'S AND HAVE BEEN REPLACED BY 1/4 INCH PLUGS AND JACKS WHENEVER POSSIBLE.

MULTIPLE SPEAKER HOOKUP DIAGRAMS



It is not recommended to mix speakers of different types, impedance, or make. Different types and makes have different degrees of efficiency and will produce different sound levels when driven at the same amplifier output

