

Technics

ST-S3

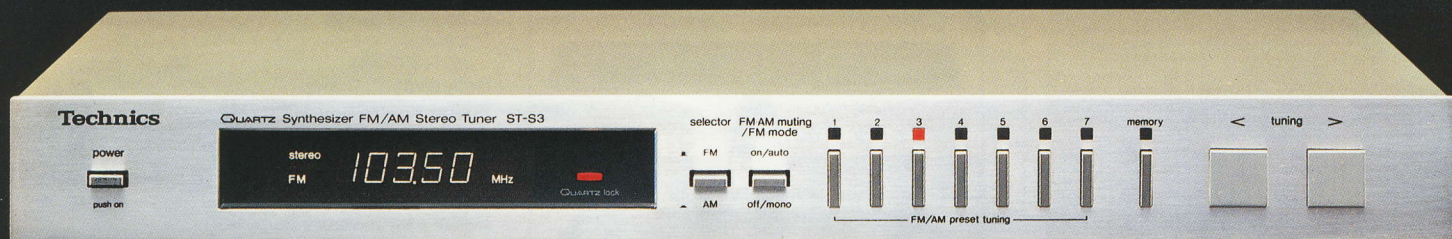
Quartz Synthesizer FM/AM
Stereo Tuner

stereo

FM

103.50

MHz



ST-S3 Quartz Synthesizer FM/AM Stereo Tuner

Tuner technology and IC technology have both grown rapidly in recent years. Here, they are united to produce a tuner that delivers high performance through the use of a quartz controlled digital tuning system which eliminates the potential inaccuracies of the conventional tuning scale and dial knob. With this Quartz Synthesizer FM/AM Stereo Tuner ST-S3, tuning in an AM or FM station or selecting any of the 14 pre-set stations (7 AM and 7 FM) is a convenient, push-button affair. This new Technics tuner simplifies the process of selecting your favorite stations while it simultaneously insures the quality and accuracy of the broadcasts which you listen to.

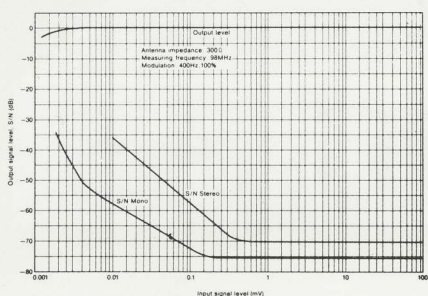
Super Accurate Quartz Synthesizer Stereo Tuner with Pre-Settings of 7 FM and 7 AM Stations

Accurate, simple tuning is made possible by the ST-S3's Quartz Synthesizer, one of the most sophisticated tuning methods known to technology. This system can be used for both AM and FM broadcasts. A total of 14 stations, 7 AM and 7 FM, can be pre-set and then tuned in at any time with only the touch of a button. Batteries protect these presettings even when the power is turned off. When the power is turned on again, the station you last listened to is automatically tuned in. However, ease is only one benefit of this tuner. With the Quartz Synthesizer only the frequencies on which a broadcast signal might exist can be received. Drift problems become virtually non-existent because the local oscillators and the AM and FM circuits are all governed by the ST-S3's quartz oscillator.

High Sensitivity FM Front End and High Selectivity IF Stage

Four specially selected, narrow-tolerance, variable capacitance diodes are used in the front end, taking the place of a conventional 4-gang tuning capacitor. RF amplification is accomplished with a four-pole MOS FET, which contributes to the tuner's high sensitivity. The IF stage of the FM section features three ceramic filters of excellent group delay characteristics, producing the tuner's high selectivity of 75 dB, in addition to its low distortion. The AM section also registers an unusually high selectivity of 55 dB thanks to its ladder type ceramic filters.

Input signal level vs. output and S/N



IC's Play an Important Role in Tuner Operation

Technics has greatly simplified the complexity of tuner circuitry in the ST-S3 with the introduction of our IC's. Four IC's (Micro-computer, RAM, pre-scaler, and PLL) constitute the essential quartz synthesizer circuit. A micro-computer (MN1400 type), with the aid of RAM (random access memory), controls PLL IC to electronically lock in the desired station with variable capacitance diodes. The pre-scaler IC divides local oscillator frequency into 1/20, feeding it to PLL IC. The FM detector can handle modulation levels which are three times the strength of the maximum permitted by the FCC. The AN 7001 can also handle a powerful 1 V AM signal, so you can even expect clear reception from nearby stations.

Both FM and AM Inter-Station Noise Muting

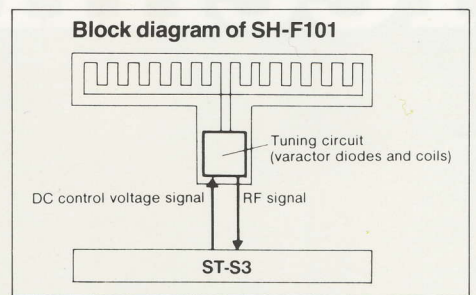
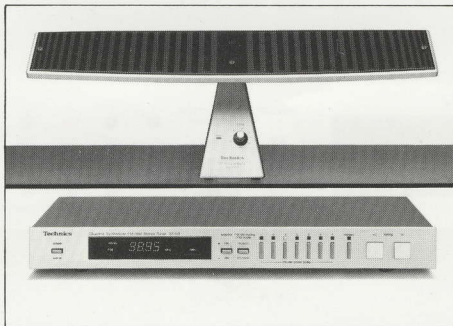
The ST-S3 offers an exceptional combination of both AM and FM muting. An FM muting system is not an unusual feature, but AM muting is seldom found, even in a quality tuner. By blocking out stations that are less than 30 μV, this tuner effectively eliminates the annoying noise which may accompany AM tuning. The muting feature, however, can be switched off if you are searching for a station with a weak or distant signal.

Other Features

- Brilliant LED's indicate pre-set station being received.
- Quartz-locked tuning indicator provided.
- Quartz crystal in cold weld package for stable performance.
- Digital FL display of both FM and AM stations being received.
- LED's and switches are all inserted to the printed baseboard to eliminate excess wiring.
- Soft touch, up and down tuning buttons.

"Wing Antenna" Terminals for Optimum Tuning at All Times

You can take full advantage of the quartz synthesizer's potential by providing an optional FM antenna tuning control with our remarkably effective SH-F101 Indoor Active Tuned FM Wing Antenna. The SH-F101 is designed for inside use and fits neatly on top of the ST-S3.



Technical Specifications (DIN 45 500)

FM TUNER SECTION

Frequency range	87.5~108 MHz
Sensitivity	1.9μV (IHF, usable)
S/N 30 dB	1.3μV (75Ω)
S/N 26 dB	1.7μV (300Ω), 1.2μV (75Ω)
S/N 20 dB	1.5μV (300Ω), 0.9μV (75Ω)
IHF S/N 46 dB stereo quieting sensitivity	25μV (75Ω)
Total harmonic distortion	
MONO	0.15%
STEREO	0.3%
S/N	
MONO	69 dB (75 dB, IHF)
STEREO	65 dB (70 dB, IHF)
Frequency response	20 Hz~15 kHz, +0.5 dB~ -1.5 dB
Alternate channel selectivity (±400 kHz)	75 dB
Capture ratio	1.0 dB
Image rejection at 98 MHz	65 dB
IF rejection at 98 MHz	100 dB
Spurious response rejection at 98 MHz	90 dB
AM suppression	55 dB
Stereo separation	
1 kHz	45 dB
10 kHz	35 dB
Carrier leak	
19 kHz	-35 dB (-37 dB, IHF)
38 kHz	-48 dB (-50 dB, IHF)
Channel balance (250 Hz~6300 Hz)	±1.0 dB
Limiting point	1.2μV
Power bandwidth	
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminals	300Ω (balanced) 75Ω (unbalanced)

AM TUNER SECTION

Frequency range	531~1602 kHz
Sensitivity	
(S/N 20 dB)	30μV, 350μV/m
Selectivity (±9 kHz)	55 dB
Image rejection at 1000 kHz	45 dB
IF rejection at 1000 kHz	50 dB

GENERAL

Output voltage	0.3 V (0.6 V, IHF)
Power consumption	12 W
Battery for memory back-up (optional)	3 "AA" size batteries DC 4.5 V
Power supply	AC 110/120/220/240 V, 50/60 Hz
Dimensions (W×H×D)	430×53×240 mm (16-15/16"×2-3/32"×9-7/16")
Weight	2.8 kg (6.2 lb)

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Matsushita Electric