

DATA SHEET

Part No.	MN66720DCUC
Package Code No.	LQFP100-P-1414

SEMICONDUCTOR COMPANY
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

MN66720DCUC

DAB Baseband Processor Featuring Low Power Consumption

■ Overview

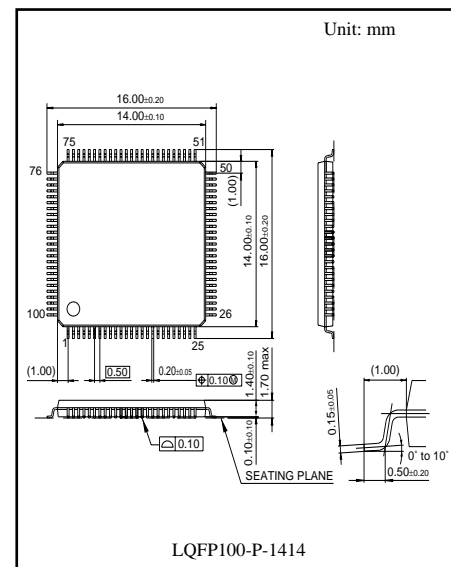
The MN66720DCUC is a single chip LSI device that implements all analogue and digital processing functions necessary to completely decode any DAB signal conforming to the ETS300401 standard. This device features comprehensive power management functions, making it ideal for a wide range of portable receivers as well as mains powered domestic appliances and in-car receivers.

■ Features

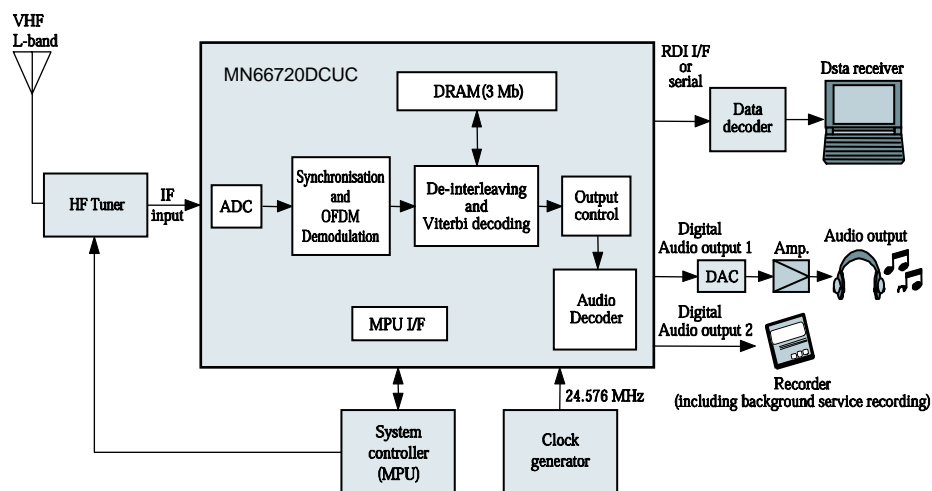
- Single-chip CMOS device implementing all decoder functions from analogue IF input through to audio and data service extraction and decoding
- On-chip MP2 audio decoder capable of decoding two audio services simultaneously from the same multiplex, plus an on-chip programmable digital audio mixer. This is ideal for sophisticated overlay of announcement services over audio services, and for simultaneous recording of one service while listening to another
- Modes of operation include standby, power-saving or full multiplex decoding with an industry-leading power consumption of around 150 mW (70 % less than Panasonic's 1st generation DAB technology)
- On-chip embedded DRAM for de-interleaving
- Support for all DAB Modes I, II, III and IV
- Complete decoding of the full DAB multiplex up to 1.8432 Mbps for Main Service Channels
- On-chip ADC for direct input of the analog IF signal at 2.048 MHz
- On-chip decoding of PAD data streams of up to 64 kbps via the host CPU interface
- On-chip support for sub-channel reconfiguration with no interruption to audio services. Service reconfiguration is fully implemented with minor external CPU support, also ensuring no audio service interruptions
- On-chip packet filter, capable of extracting one raw data stream or two service+packet address streams directly
- On-chip AFC, enabling designers to produce low-cost designs without an external VCXO
- On-chip external data interface, enabling designers to extract any data from the DAB multiplex directly without having to use the RDI protocol
- Low host CPU overhead through a high level of on-chip intelligence and connection via a simple synchronous serial interface, allowing direct interfacing to a wide range of host MPUs including low cost 8-bit and 16-bit devices
- On-chip interfaces for RDI, SP/DIF and direct data output
- Automatic Symbol Selection System (ASSS) enables the highest level of power management for DAB receivers, including facilities for managing HF tuner power consumption
- Operating Frequency of 24.576 MHz
- Supply voltage of 3.3 V (I/O and Analog), 2.5 V (on-chip DRAM) and 2.5 V or 1.8 V (internal logic)
- 100-pin LQFP package

■ Applications

Portable battery-powered receivers; in-car automotive receivers; HiFi or other domestic receivers



■ Block Diagram



Request for your special attention and precautions in using the technical information and semiconductors described in this material

- (1) An export permit needs to be obtained from the competent authorities of the Japanese Government if any of the products or technical information described in this material and controlled under the "Foreign Exchange and Foreign Trade Law" is to be exported or taken out of Japan.
- (2) The technical information described in this material is limited to showing representative characteristics and applied circuits examples of the products. It neither warrants non-infringement of intellectual property right or any other rights owned by our company or a third party, nor grants any license.
- (3) We are not liable for the infringement of rights owned by a third party arising out of the use of the technical information as described in this material.
- (4) The products described in this material are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).
Consult our sales staff in advance for information on the following applications:
 - Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
 - Any applications other than the standard applications intended.
- (5) The products and product specifications described in this material are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (6) When designing your equipment, comply with the guaranteed values, in particular those of maximum rating, the range of operating power supply voltage, and heat radiation characteristics. Otherwise, we will not be liable for any defect which may arise later in your equipment.
Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (7) When using products for which damp-proof packing is required, observe the conditions (including shelf life and amount of time let standing of unsealed items) agreed upon when specification sheets are individually exchanged.
- (8) This material may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd.